NSPS 0000 Initial Compliance Report

Adrian 25 Central Processing Facility SAVOY ENERGY LP

SW/NW/NE of Section 25, T06S-R03E Adrian Township, Lenawee County, Michigan

> Permit to Install #: 23-14 AQD Source ID: P0486

PREPARED FOR:

Savoy Energy LP 920 Hastings Street Traverse City, Michigan 49686

PREPARED BY:



3600 Veterans Drive Suite 3 Traverse City, Michigan 49684 Project #11-0820-0502

8 October 2014

Adrian 25 CPF



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ECT Environmental Consulti

1.0 SITE DESCRIPTION AND LOCATION

The Adrian 25 Central Processing Facility (CPF), owned and operated by Savoy Energy LP (Savoy), is located in the SW/NW/NE of Section 25, T06S-R03E, Adrian Township, Lenawee County, Michigan (Facility). The facility coordinates are N41.924656 / W84.015432. *Refer to Appendix A – Site Location Diagram.* The Facility Permit to Install (PTI) number is 23-14 and the AQD Source ID (SRN) is P0486. The facility is a nonfractionating plant with a maximum design capacity of 5 million standard cubic feet per day. *Refer to Appendix B – Design Capacity Documentation*.

2.0 AFFECTED FACILITY COMPLIANCE

Natural gas processing activities at the Adrian 25 CPF began on 08 April 2014. Environmental Consulting & Technology, Inc. (ECT) provided consulting services pertaining to 40 *CFR Part 60 Subpart 0000 (NSPS 0000)* compliance activities and the leak detection and repair (LDAR) program. The affected facilities as defined in *40 CFR Part 60.5360* are listed in *Table 1 - Affected Facility Summary*. The reciprocating compressor is an affected facility with 4320 hours of operation since initial startup. The storage vessels at the Adrian 25 CPF are not affected facilities with potential for volatile organic carbon (VOC) emissions less than six (6) tons per year (tpy). The compressed air-driven pneumatic controllers at the Adrian 25 CPF are not affected facilities.

Table 1. Affected Facility Summary

Component		Service:				On		Not	2	2		
Туре:	Heavy Liquid:	Light Liquid:	Gas / Vapor:	Both:	- DOR ¹ Removal	Unsafe	Accessible	DTM ²	NDE ³	CVS⁴	Total	
Compressor:	0	0	1	0	0	0	0	0	0	0	0	1
Connector:	0	3076	4970	0	0	0	0	0	0	0	0	8046
Pressure Relief Valve:	0	1	22	0	0	0	0	0	0	0	0	23
Pump:	0	2	0	0	0	0	0	0	0	0	0	2
Valve:	0	544	641	0	0	0	0	0	0	0	0	1185
Totals:	0	3623	5634	0	0	0	0	0	0	0	0	9257

^{1.} DOR – Delay of Repair

^{2.} DTM – Difficult to Monitor

^{3.} NDE - No Detectible Emissions

^{4.} CVS – Closed Vent System



3.0 LDAR PROGRAM

Emission Monitoring Services, Inc. (EMSI) commenced equipment tagging and monitoring at the Facility according to *NSPS 0000* on 28 April 2014. The process and instrumentation diagrams (P&ID) and process flow diagrams (PFD) utilized to verify LDAR components and appropriate monitoring schedule can be found in *Appendix C – P&ID and PFD*. The reciprocating compressor is designated for no detectable emissions (NDE) in accordance with 40 CFR 60.482-3a(h)(i). Valves are scheduled for quarterly monitoring pursuant two (2) successive months with no leak detected according to 40 CFR Part 60.482-7a(C)(1)(i). The pump and pressure relief valves (PRV) are exempt from monitoring beyond audio, visual, and olfactory (AVO) thresholds via 40 CFR Part 60.5401(d). Records of AVO monitoring by Facility personnel will be maintained, and EMSI will monitor the pump and PRV at quarterly monitoring events.

3.1 **JULY 2014**

The initial monitoring event completed July 2014 by EMSI identified 51 leaking components. Twenty-eight (28) connectors were identified as leaking and successfully repaired. One (1) pressure relief valve and twenty-two valves were detected as leaking and successfully repaired. All leaking components were verified to have emissions below the 500 ppm threshold after the second repair attempt. Prior to being placed on a quarterly monitoring schedule, all valves require two successful, consecutive monitoring events. The 1163 valves verified as not leaking require one more monitoring event in August 2014. The 22 leaking valves require two additional consecutive monthly monitoring events, August 2014 and September 2014, to verify emissions remain below the 500 ppm threshold. A summary of leaks detected and repaired can be found in *Table 2 – July 2014 Leak Summary*.

Table 2. Iuly 2014 Leak Summary

Component	Prior # in Program	Added	Retired	Total	Total Monitored	Leaking	Leak Percent	1st Repair Attempt	2nd Repair Attempt	Date Repaired	Repairs >
Compressor:	0	1	0	1	1	0	0.00	-	-	-	0
Connector:	0	8046	0	8046	4365	28	0.65	18-Jul-14	14-Jul-14	14-Jul-14	0
Pressure Relief Valve:	0	23	0	23	23	1	4.35	18-Jul-14	22-Jul-14	22-Jul-14	0
Pump:	0	2	0	2	2	0	0.00	-	-	-	0
Valve:	0	1185	0	1185	1185	22	1.86	18-Jul-14	14-Aug-14	14-Aug-14	0

3.2 AUGUST 2014

In August 2014, EMSI completed the second consecutive monitoring event for the 1163 valves identified as not leaking during the July 2014 monitoring event. The results indicated that the 1163 valves were below the 500 ppm emission threshold and therefore placed on a quarterly monitoring schedule per 40 CFR Part 60.482-7a(C)(1)(i).

The 22 valves detected as leaking during the June 2014 were monitored to verify emissions remained below the 500 ppm threshold. Eleven of the 22 valves remained below the threshold and require one additional monthly monitoring event, September 2014, before



being return to the quarterly monitor schedule. The remaining eleven valves were identified as leaking. The valves were repaired and require two additional monthly monitoring events, September 2014 and October 2014, to verify emissions remain below the 500 ppm threshold.

During the August 2014, EMSI monitored the remaining 3681 connectors and identified 51 additional leaking connectors. The connectors were monitored following repair and the results verified the emissions were below the 500 ppm threshold.

A summary of leaks detected and repaired can be found in *Table 3 – August 2014 Leak Summary*.

Table 3. August 2014 Leak Summary

Component	Prior # in Program	Added	Retired	Total	Total Monitored	Leaking	Leak Percent	1st Repair Attempt	2nd Repair Attempt	Date Repaired	Repairs > 15 Days
Compressor:	1	0	0	1	0	0	0.00	-	-	-	0
Connector:	8046	0	0	8046	3681	51	1.38	4-Aug-14	14-Aug-14	14-Aug-14	0
Pressure Relief Valve:	23	0	0	23	0	0	0.00	-	-	-	0
Pump:	2	0	0	2	0	0	0.00	4-Aug-14	14-Aug-14	14-Aug-14	0
Valve:	1185	0	0	1185	1185	11	0.93	08-Jul-14	09-Jul-14	09-Jul-14	0

4.0 FUTURE REPORTING AND MONITORING

The Adrian 25 Central Processing Facility will continue recordkeeping and monitoring according to *NSPS 0000* requirements. The September 2014 monthly monitoring event was completed on 30 September 2014. A quarterly monitoring event will be scheduled for October 2014. The valves that were found leaking in July 2014 and August 2014 will be monitored for the two successive months and placed on a quarterly monitoring schedule pending results indicating the emissions remain below the 500 ppm threshold. The quarterly monitoring events will be conducted in October 2014, January 2015, April 2015, and July 2015. The next semiannual report for the period of 1 July 2014 – 31 December 2014 will be submitted by 31 January 2015.

Should you have any questions regarding this initial compliance report, monthly results, or the project in general, please do not hesitate to contact the appropriate individual from the Adrian 25 CPF LDAR Contact List. *See Table 4 – LDAR Contact List*

Table 4. LDAR Contact List

Environmental Contact	Name	Telephone Number	Company
LDAR Coordinator	Dylan Foglesong	(231) 941-9552	Savoy
Facility LDAR Managers	Jack Rokos	(231) 620-4218	Savoy
LDAR Personnel	Chris Taylor	(330) 413-8784	EMSI
Environmental Supervisor	Jodi Lindgren	(231) 946-8200	ECT
	Wayne Cockrum	(231) 946-8200	ECT

5.0 LEGAL STATEMENT

Pursuant to 40 CFR part 60.5420(b)(1)(iv)(A certification by a responsible official of truth, accuracy, and completeness), ECT does hereby certify that based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete.

Completed By,

Jodi Lindgren

Senior Associate Engineer

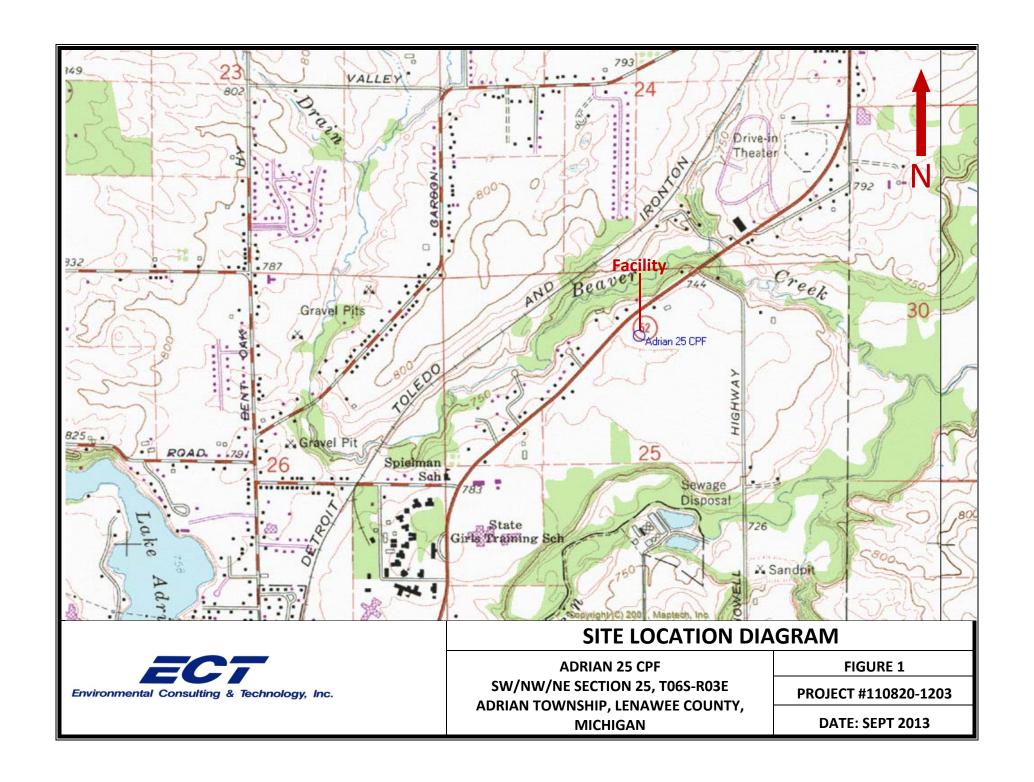


3600 Veterans Drive, Suite 3 | Traverse City, MI 49684 231-946-8200 (Office) | 919-357-4599 (Mobile) | 231-946-8208 (Fax) jlindgren@ectinc.com | www.ectinc.com



APPENDIX A

SITE LOCATION DIAGRAM





APPENDIX B

DESIGN CAPACITY DEOCUMENTATION

From: <u>Dylan Foglesong</u>
To: <u>"Jodi Lindgren"</u>

Cc: "W Sperry"; bethknol@sbcglobal.net
Subject: Goetz 8 CPF and Adrian 25 CPF

Wednesday Appet 04 2021 11 00 5

Date: Wednesday, August 06, 2014 11:02:52 AM

Attachments: <u>kmt 1 GGC 5000.pdf</u>

Jodi,

The Goetz 8 Facility has a GGC 5000 MRU (mechanical refrigeration unit) manufactured by Kinder Morgan. Looking at all the

gas handling equipment at the facility, this MRU has the greatest flow rate capacity, this rate is 5000 mcf/day. See attached manufacture's specification sheet.

The Adrian 25 Facility has a GGC 5000 MRU (mechanical refrigeration unit) manufactured by Kinder Morgan. Looking at all the

gas handling equipment at the facility, this MRU has the greatest flow rate capacity, this rate is 5000 mcf/day. See attached manufacture's specification sheet.

If there is additional information or clarification needed on this subject please give me a call.

Thanks,

Dylan Foglesong



™ NATURAL GAS REFRIGERATION SYSTEMS

GC 1250LT (Low Temperature) GC 1250



60 to 1,250 mcf/day

MAWP 1,440 psig
MDMT -20° & -50°F

Electrical Service (volts/phase/hertz)

480/3/60-100amp

Skid Size 7'4" x 22'4"

Amps (three phase) 44/83 (run/start)

Weight 10,800 lbs

Refrigeration Compressor Four 6 hp

(24 total hp)

Refrigerant R-404A

Generator, kW (if needed) 60



GGC 5000LT (Low Temperature) 300 to 5,000 mcf/day



MAWP 1,440 psig

MDMT -50°F

Electrical Service 480/3/60-200amp (volts/phase/hertz)

Skid Size 8'8" x 36'

Amps (three phase) 183/182 (run/start)

Weight 21,440 lbs
Refrigeration Compressor Four 22 hp

(88 total hp)

Refrigerant R-404A

Generator, KW (if needed) 125



■ **UNIT COMPONENTS**

Inlet gas pre-cooler exchanger

Cold separator

Gas-Freon heat exchangers

High/low pressure emergency shutdown system

Four (4) refrigeration compressors/condensers

Manual defrost system

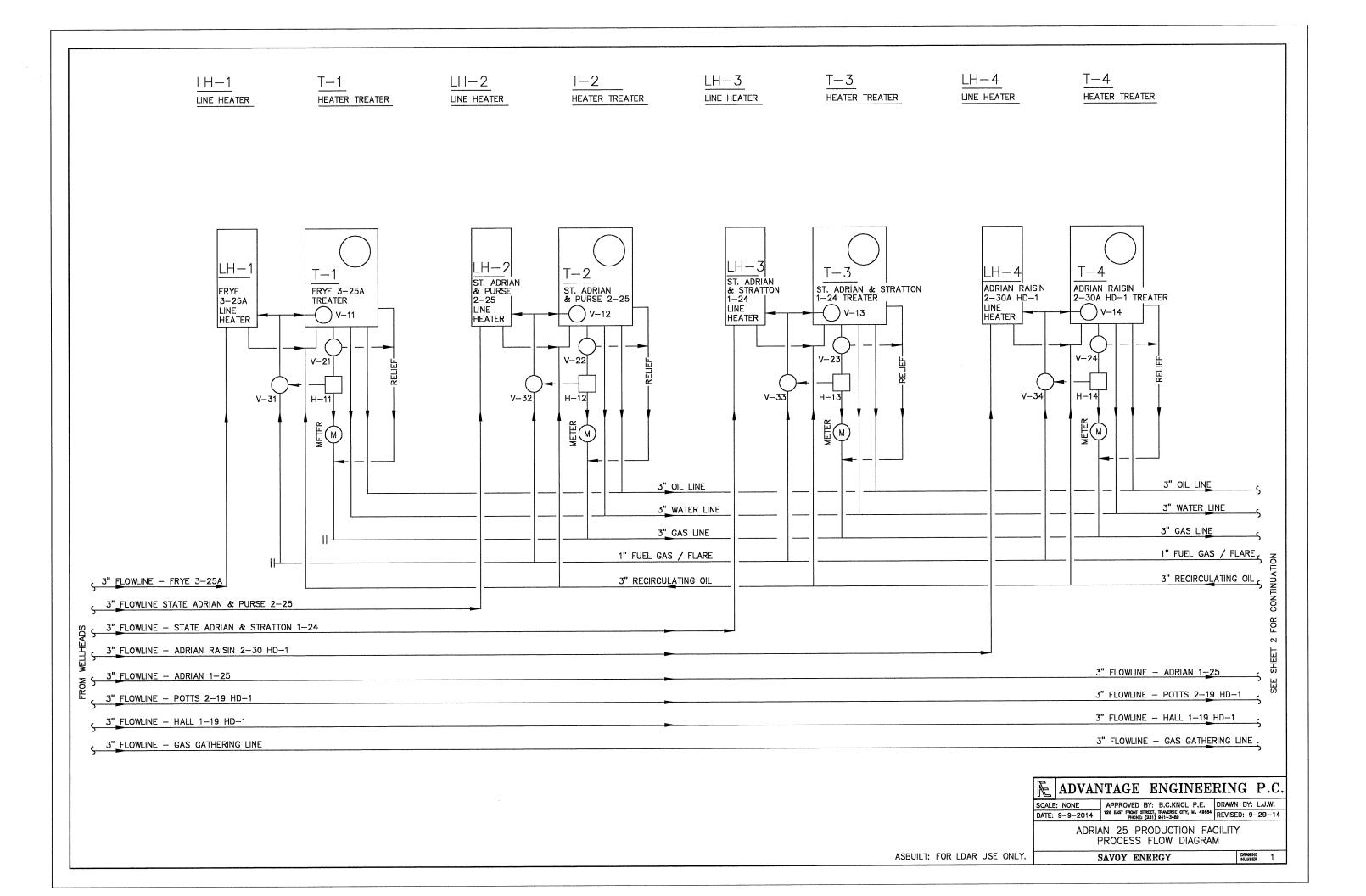
Electrical and pneumatic control systems

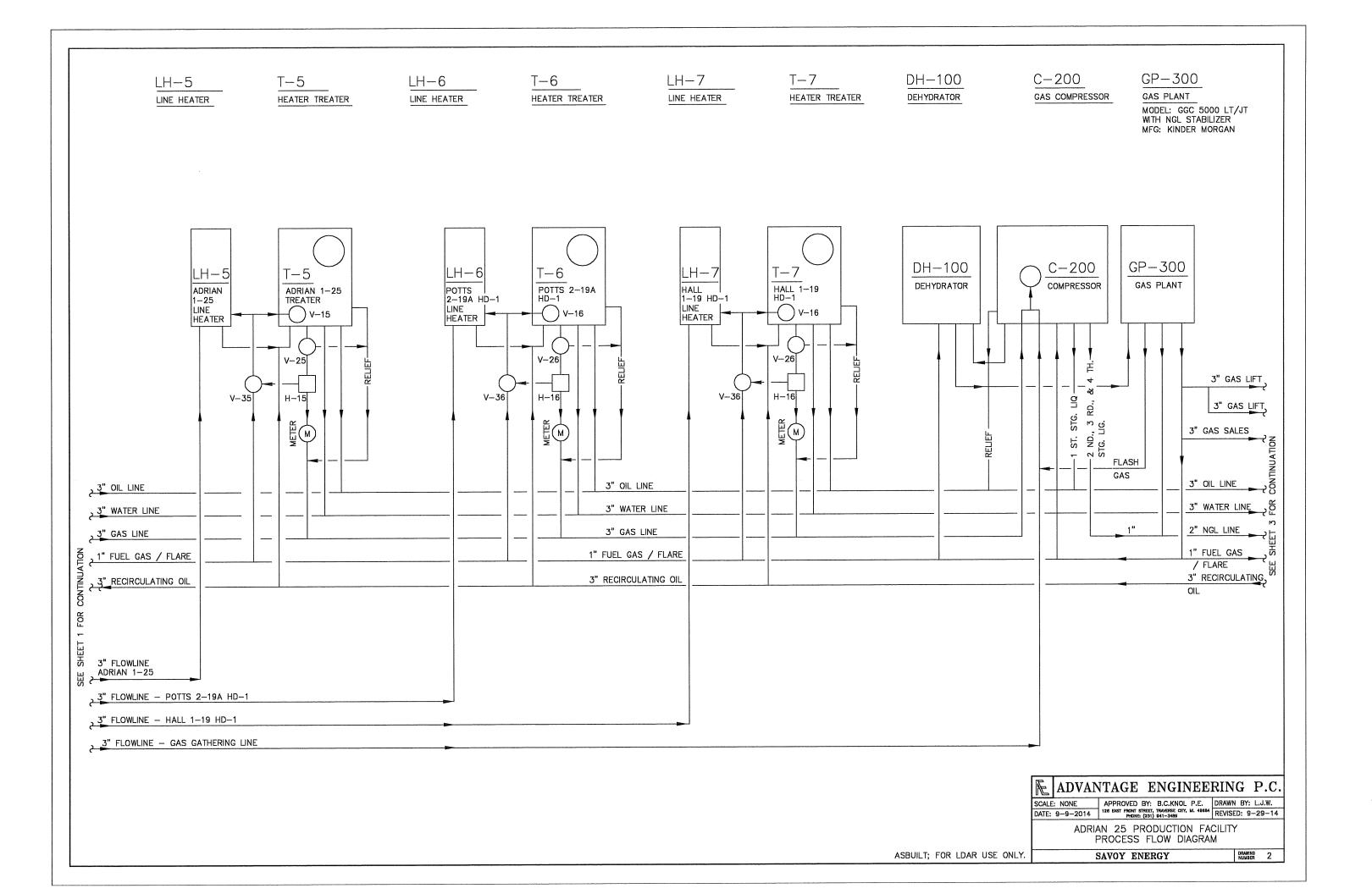


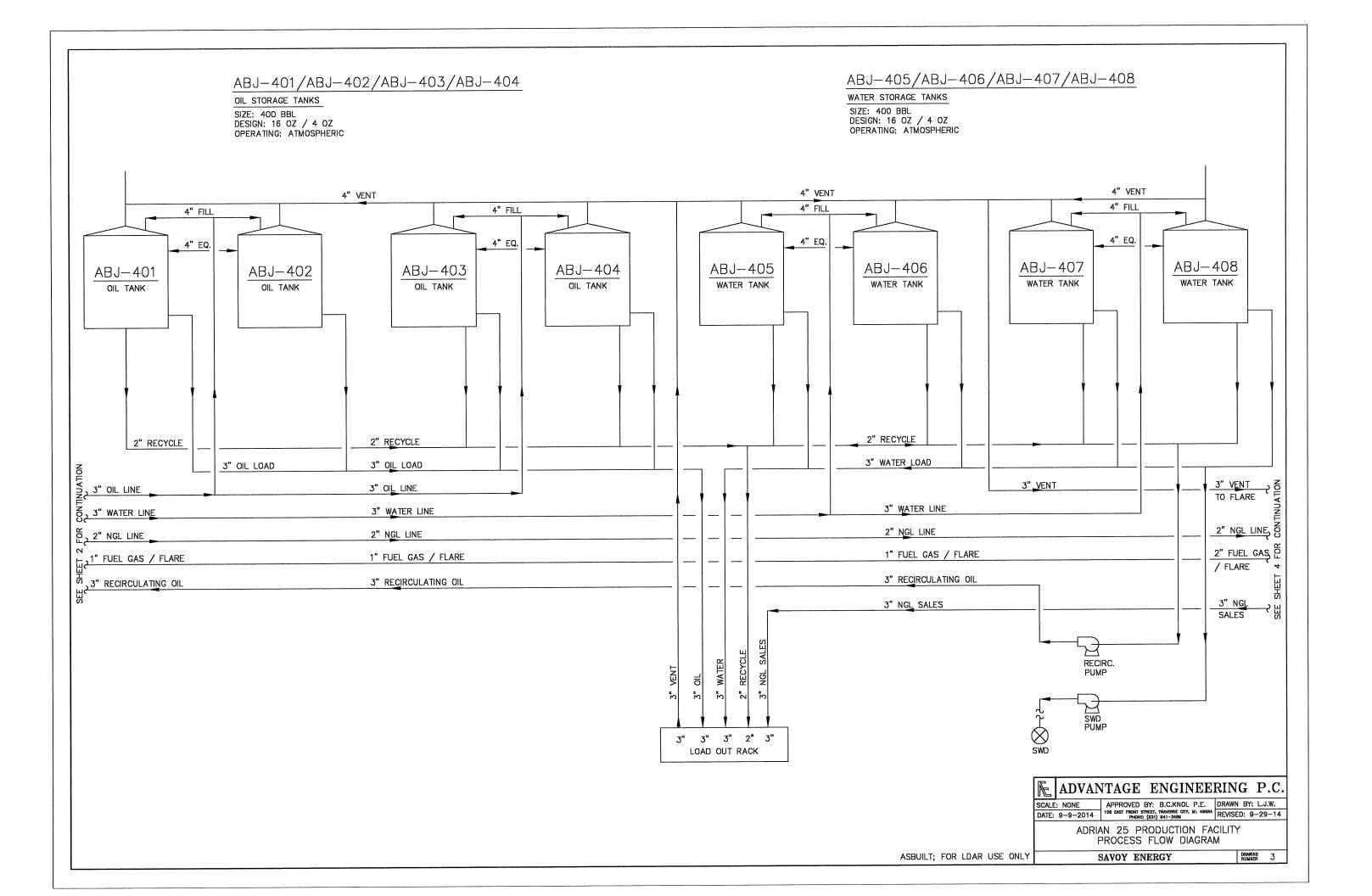


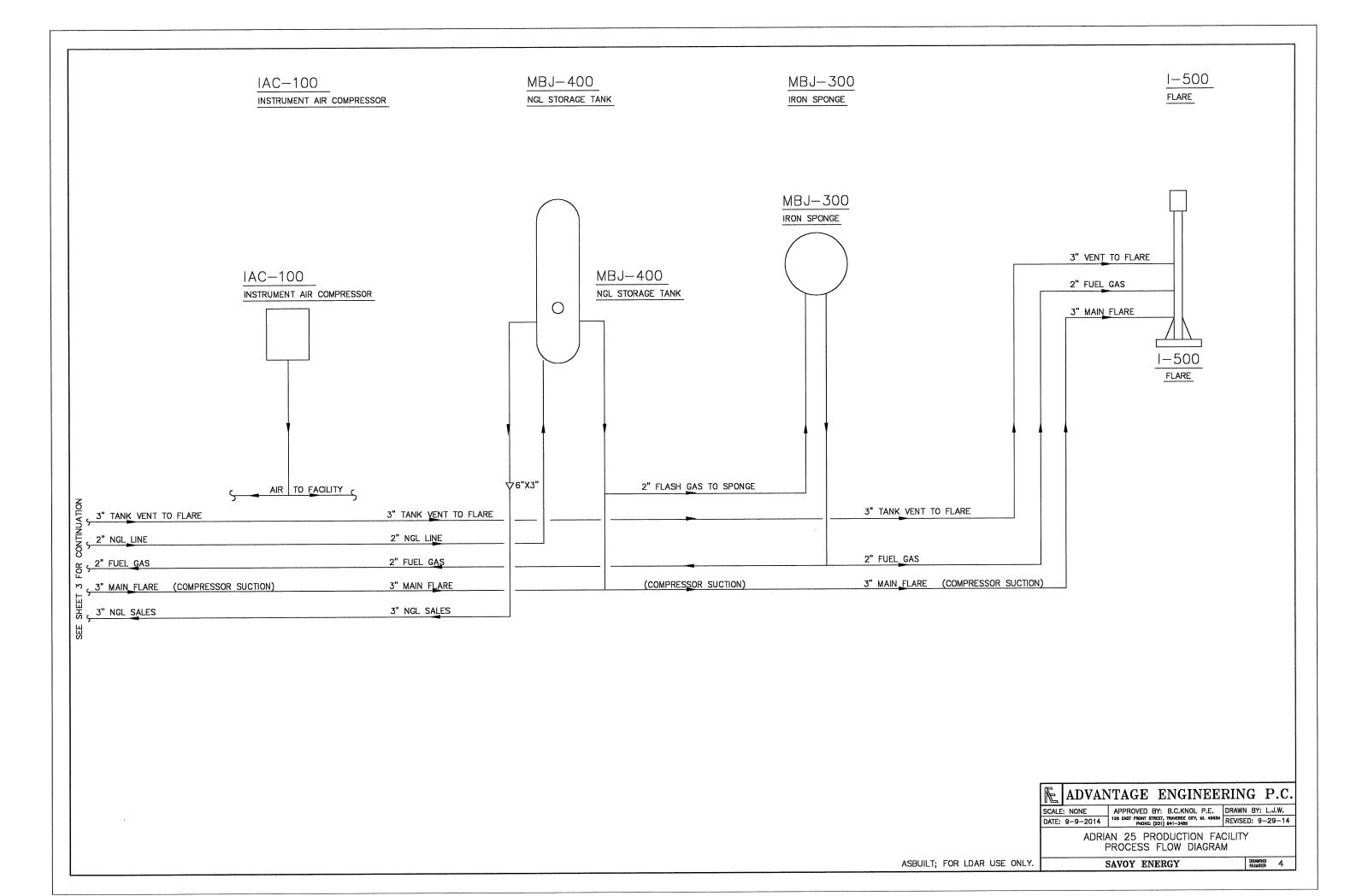
APPENDIX C

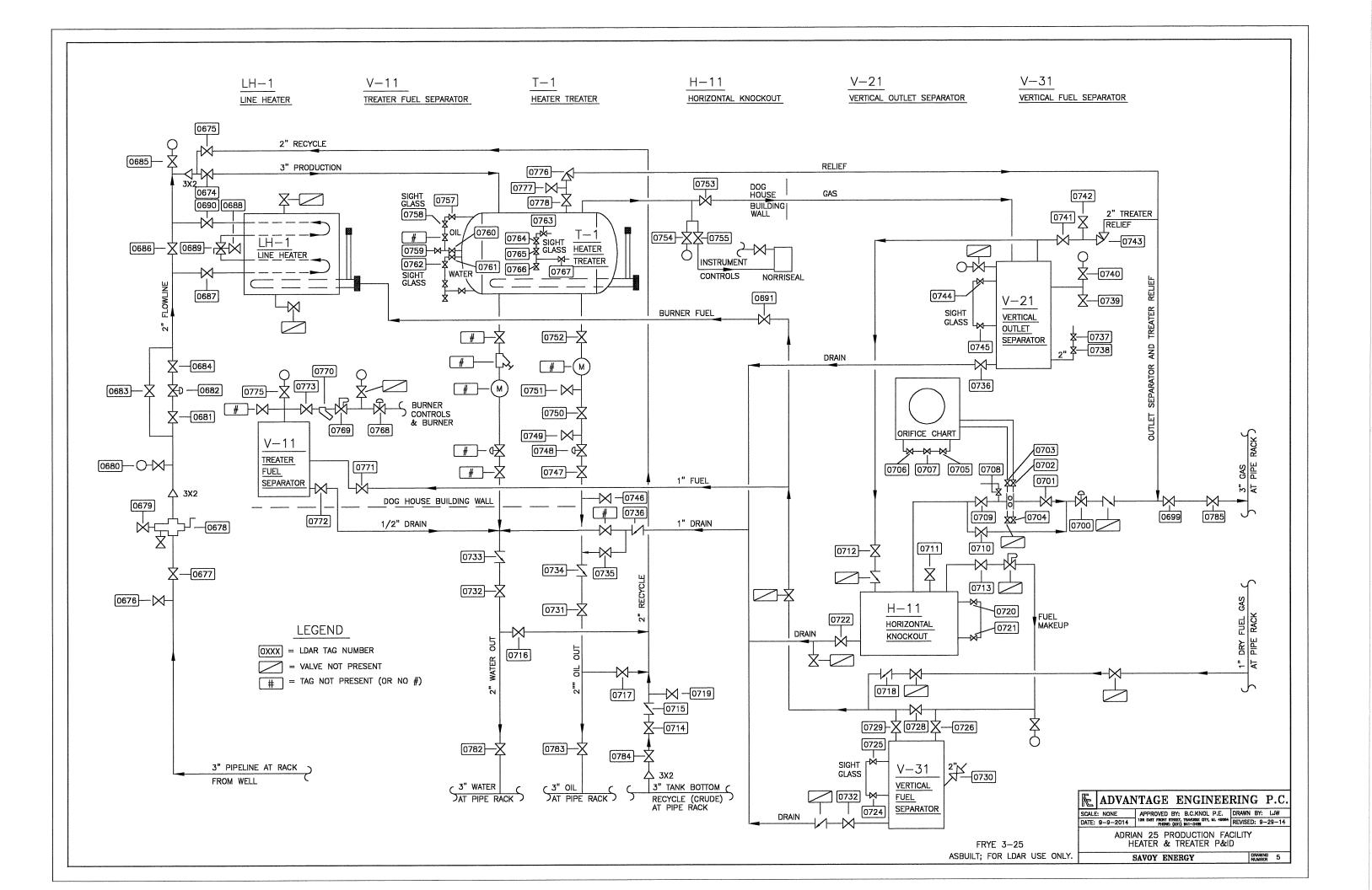
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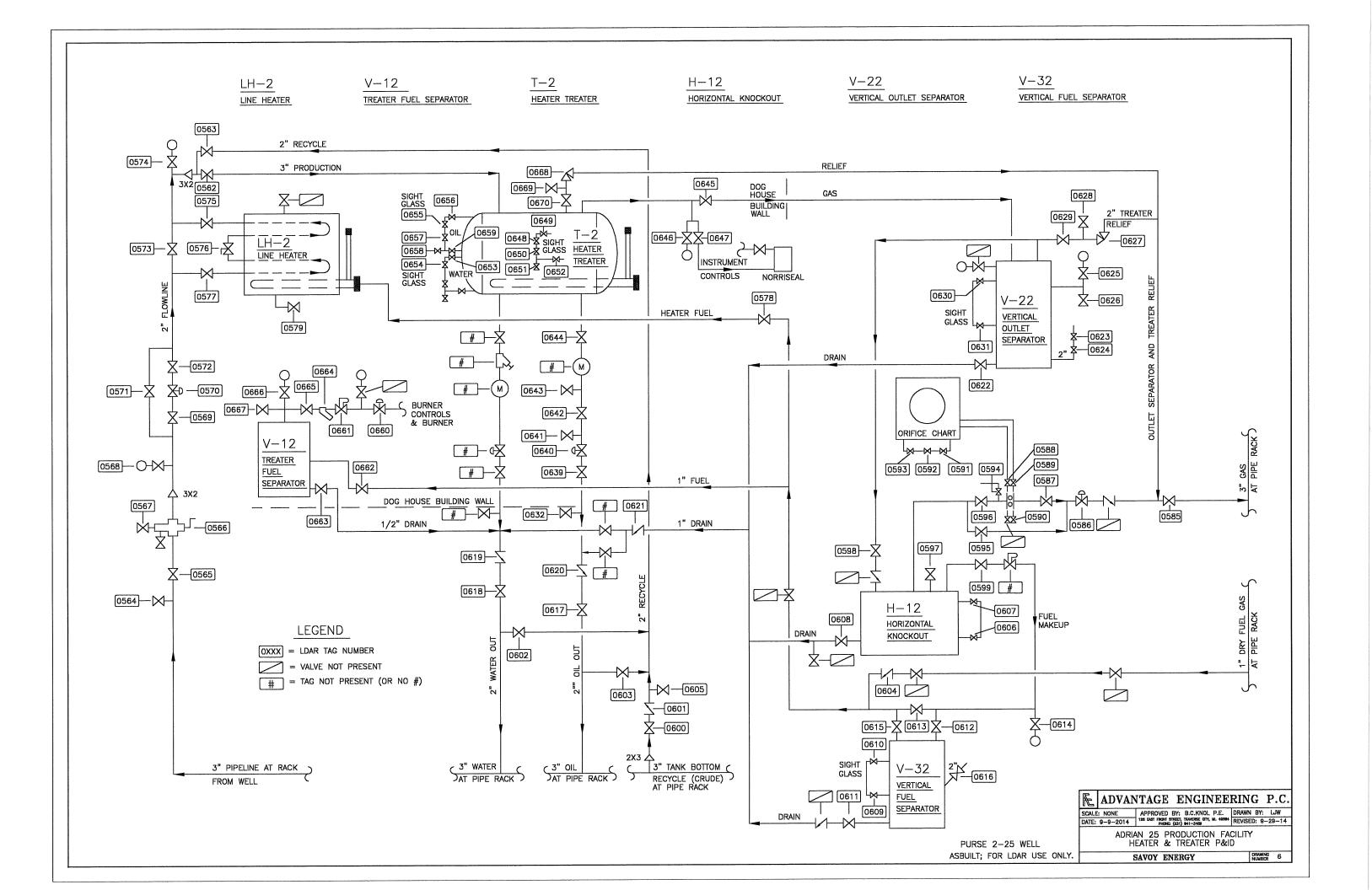


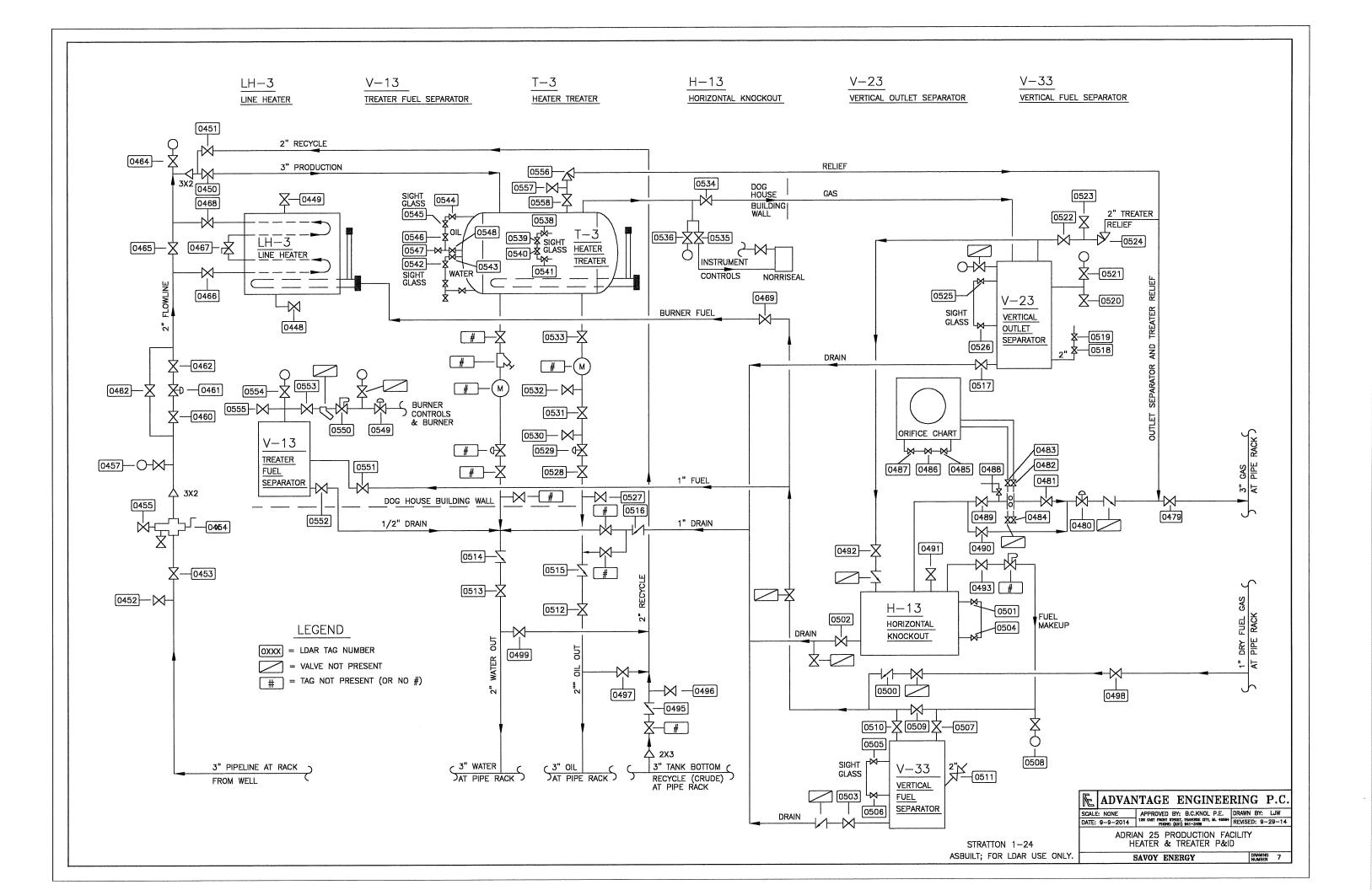


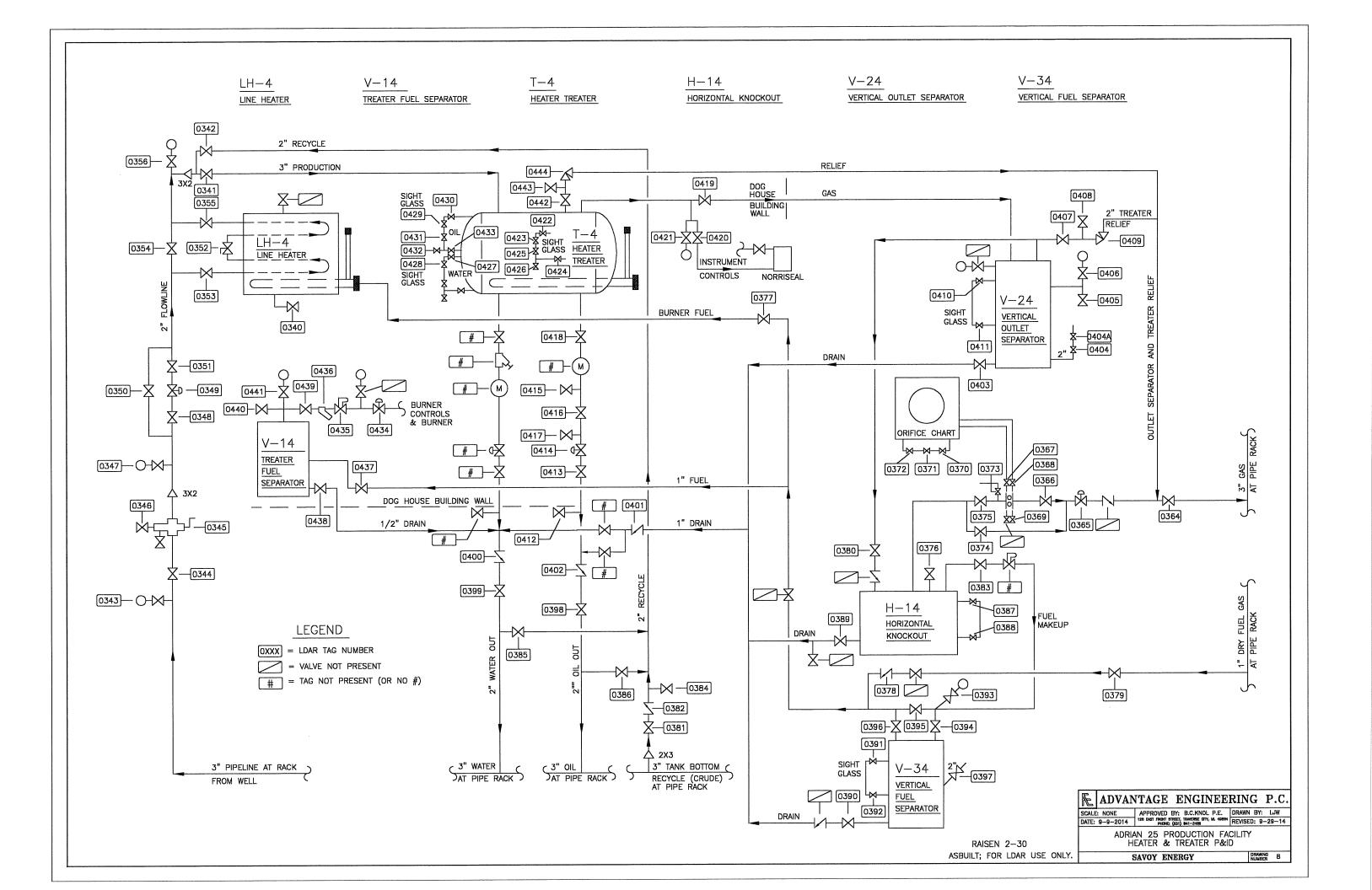


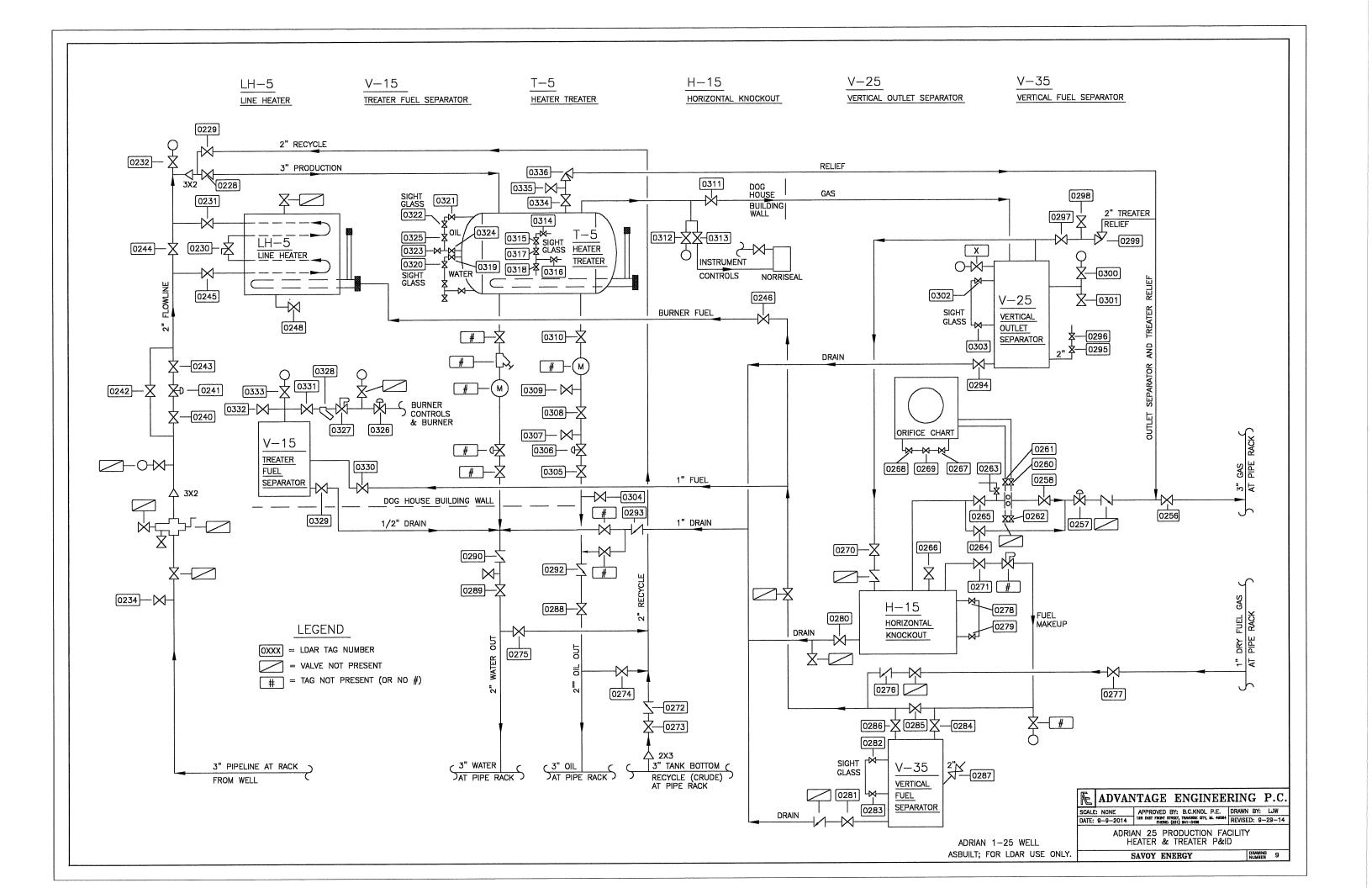


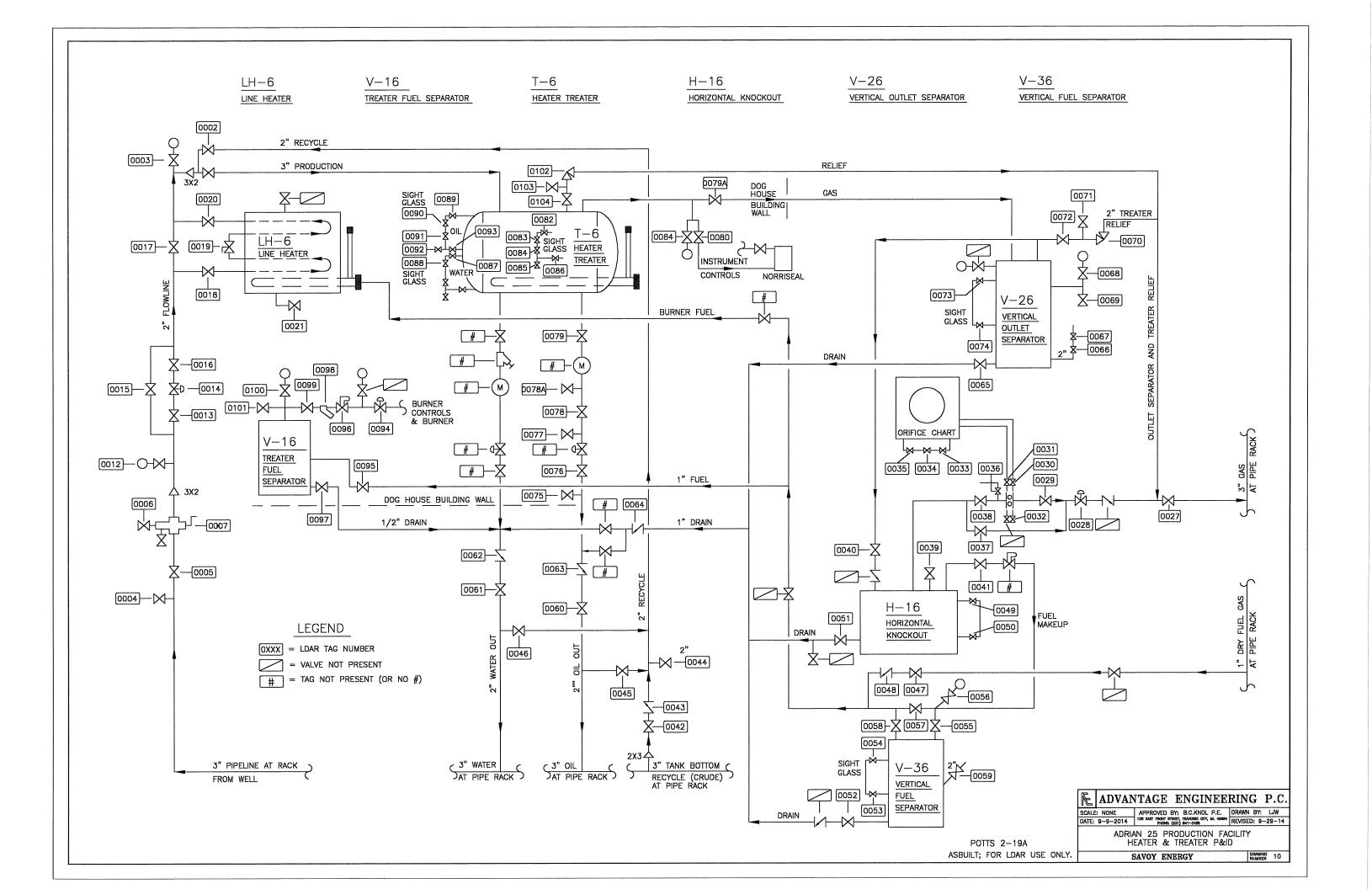


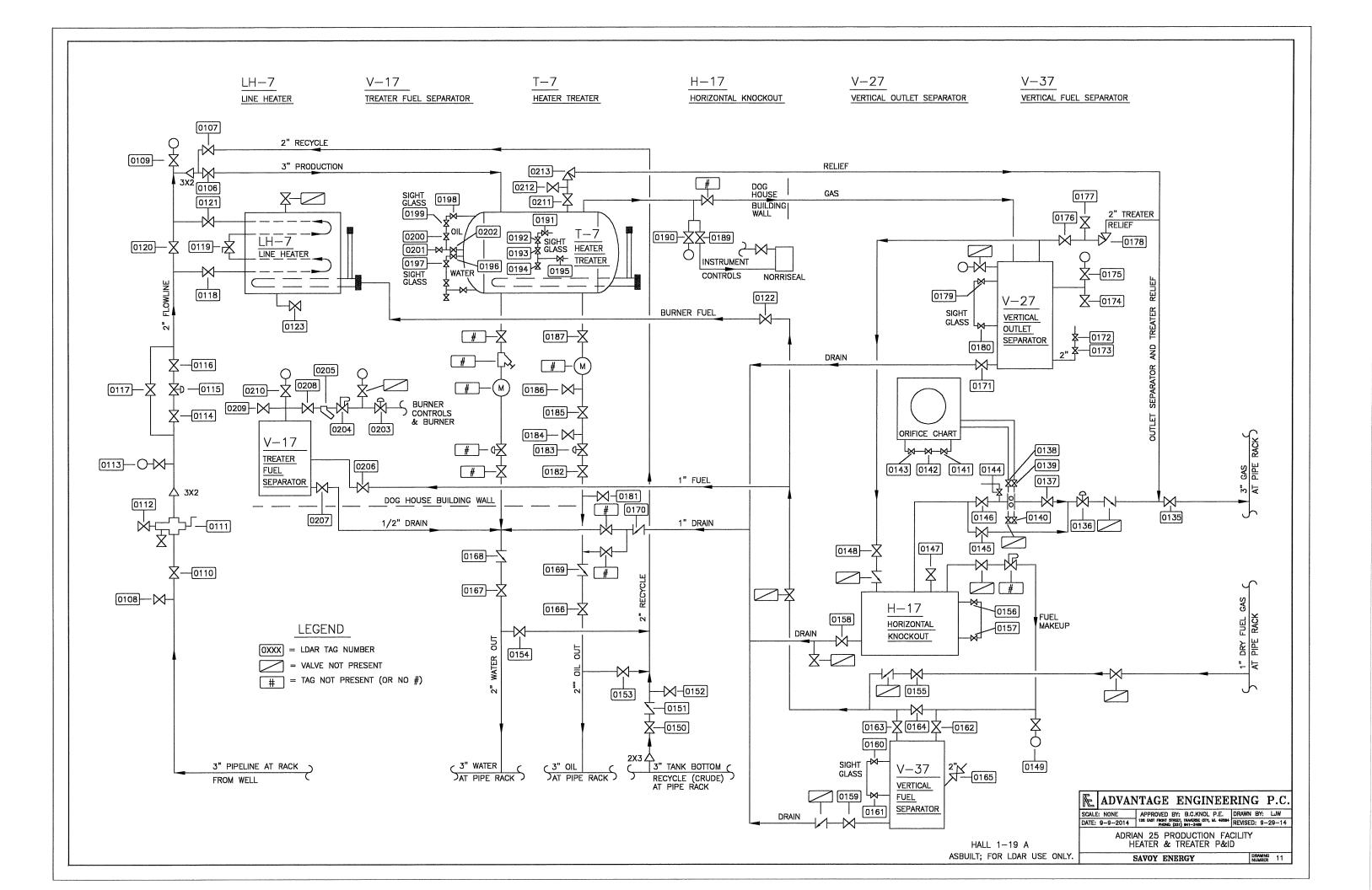


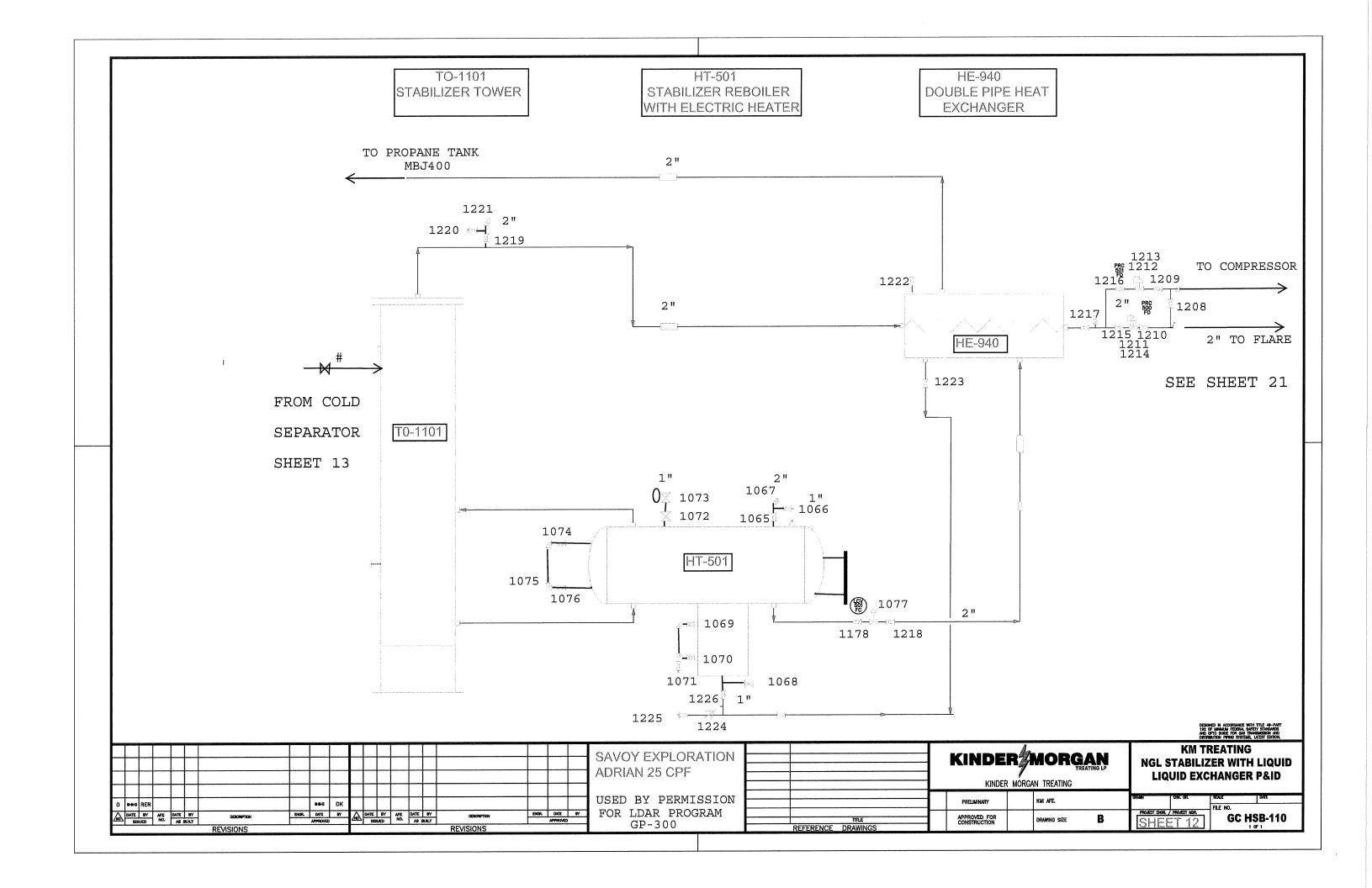


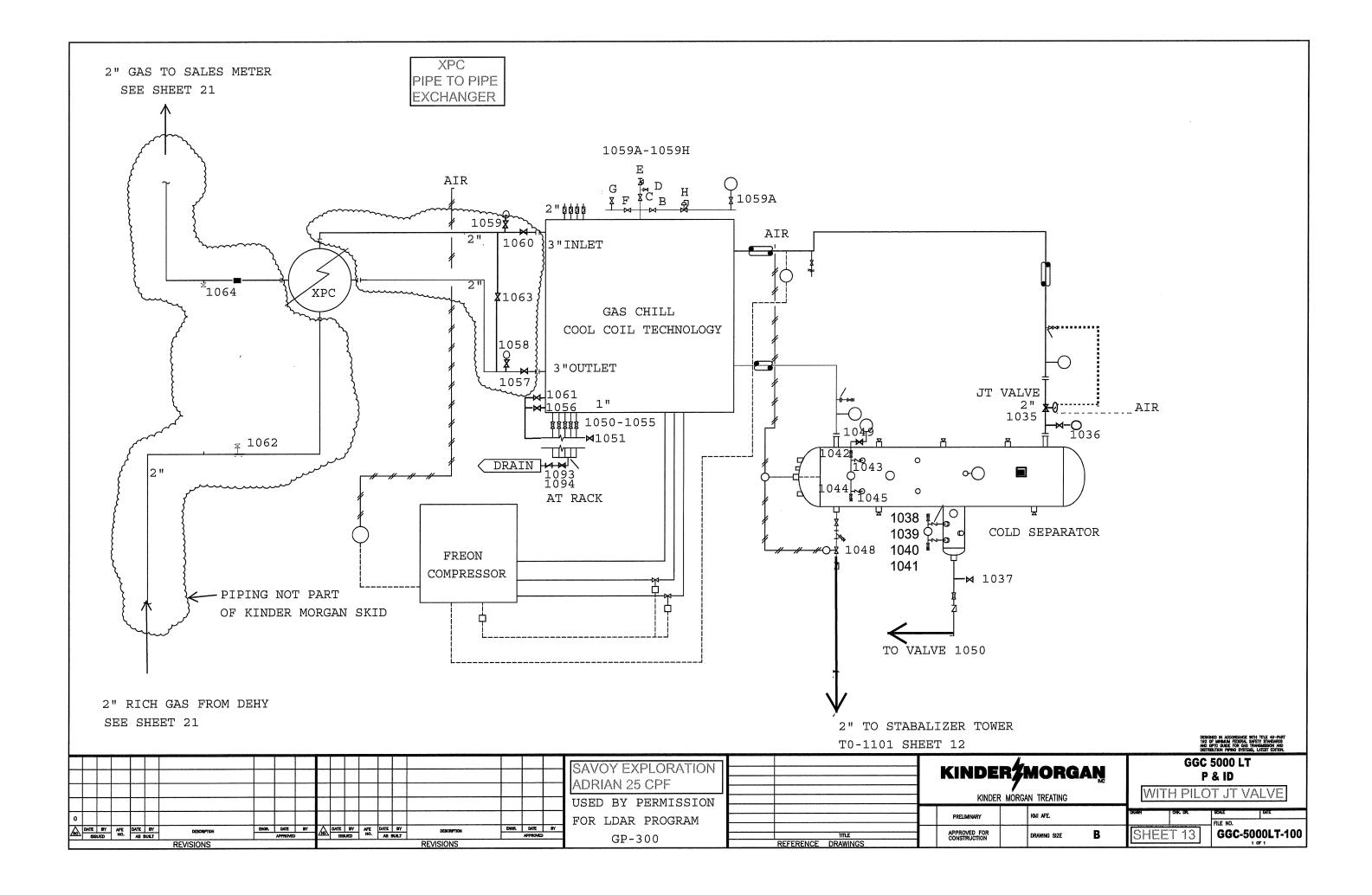


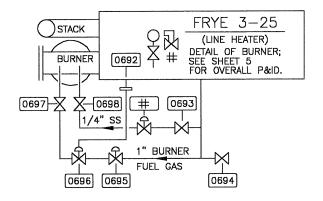


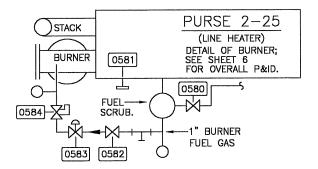


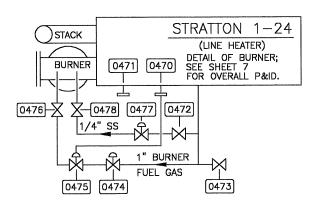


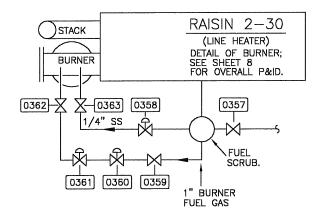


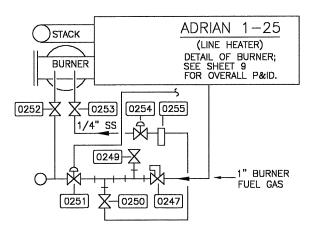


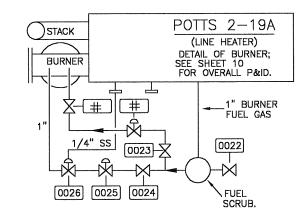


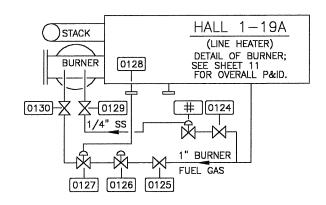


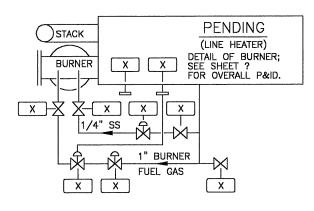


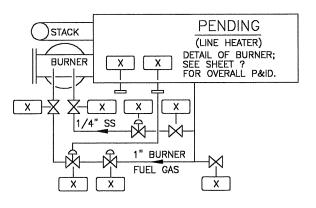












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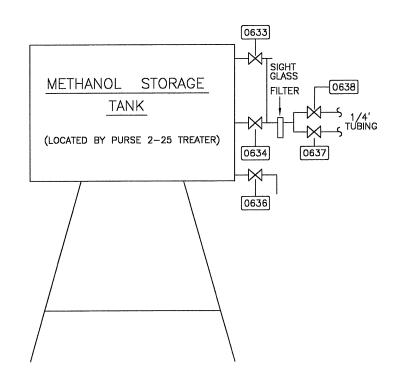
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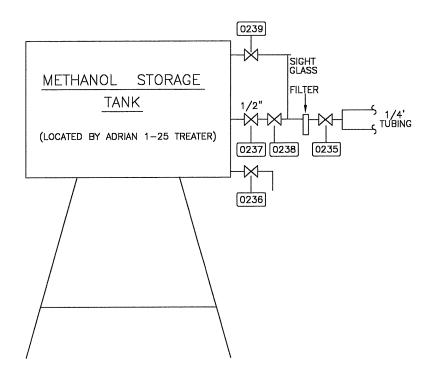
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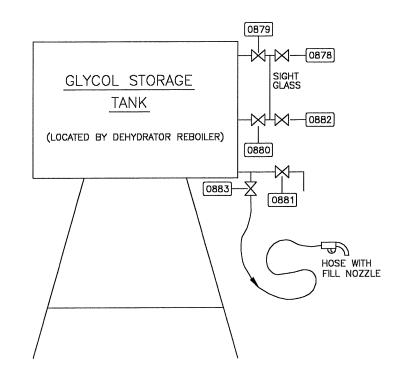
ADRIAN 25 PRODUCTION FACILITY
LINE HEATER BURNER FUEL GAS PIPING P&(ID)

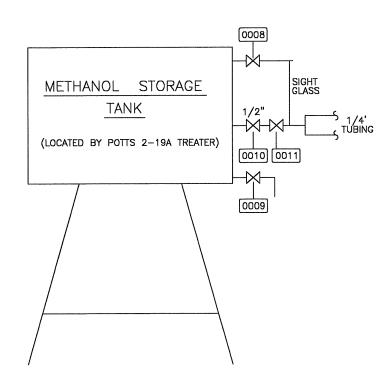
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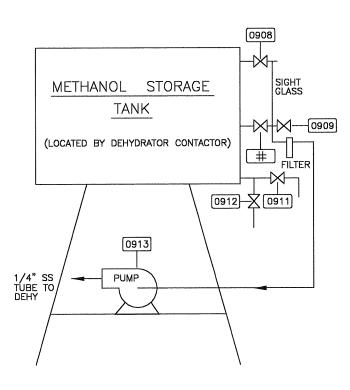
SAVOY ENERGY DRAWING 14











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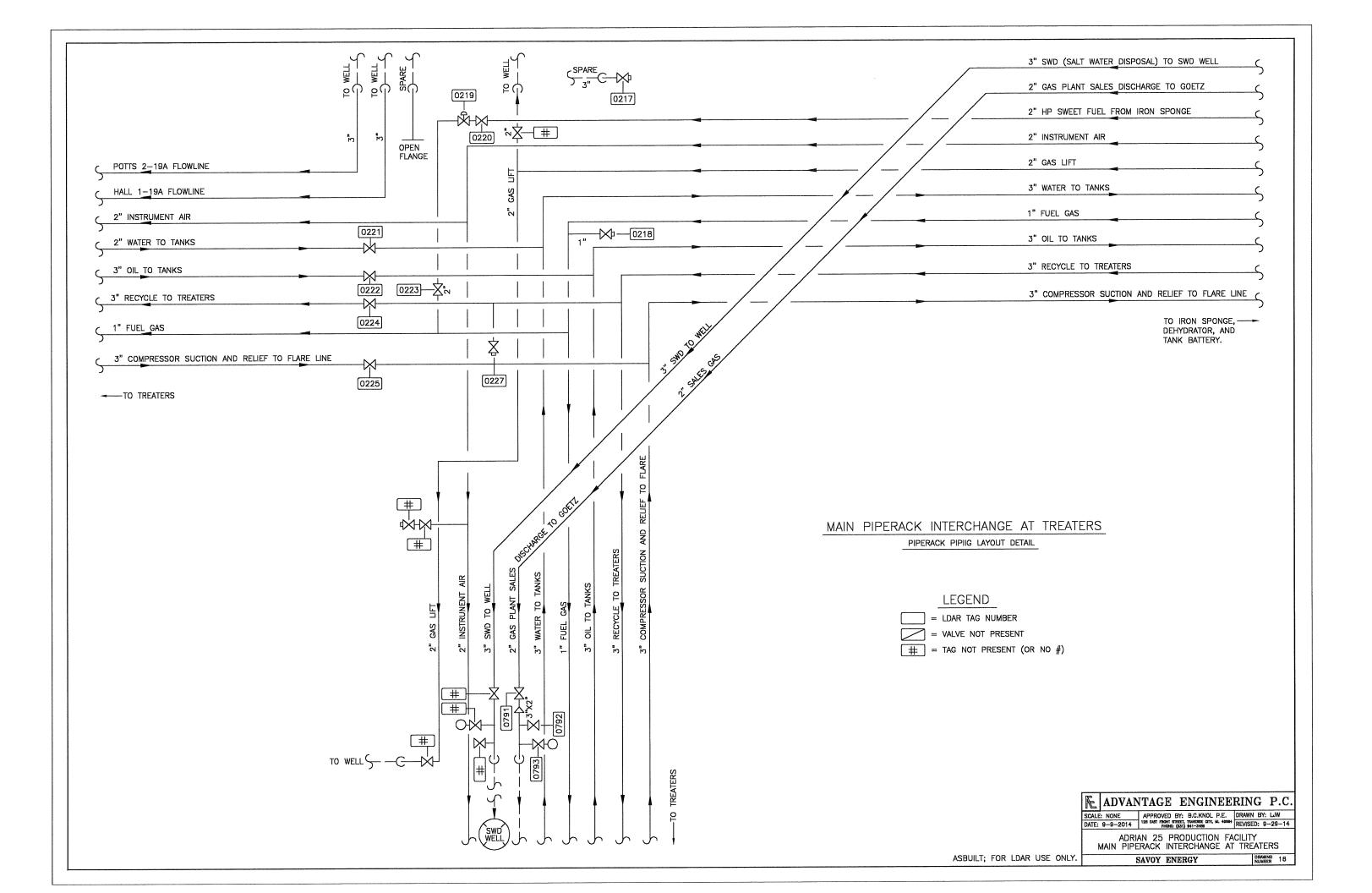
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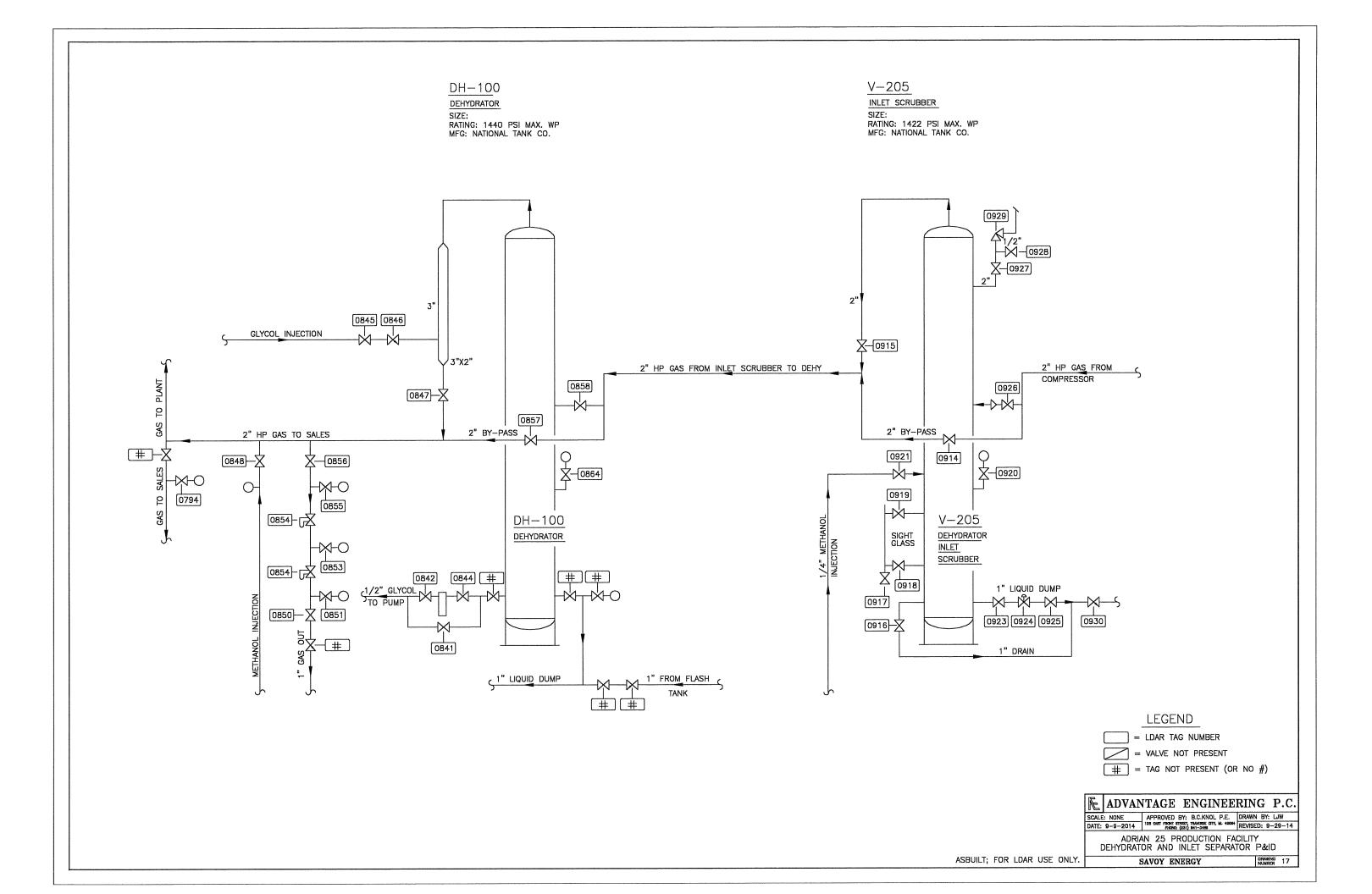
ADVANTAGE ENGINEERING P.C.

ADRIAN 25 PRODUCTION FACILITY
METHANOL AND GLYCOL STORAGE TANK P&ID

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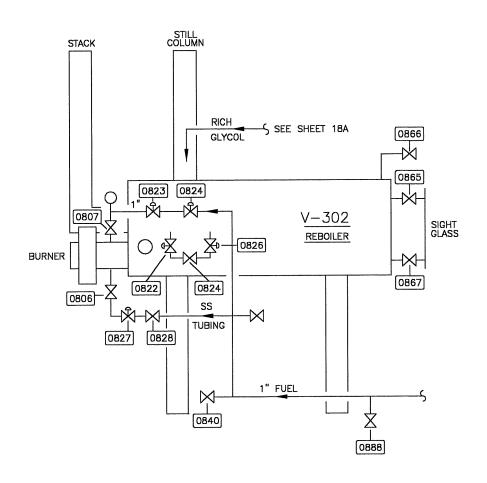
SAVOY ENERGY

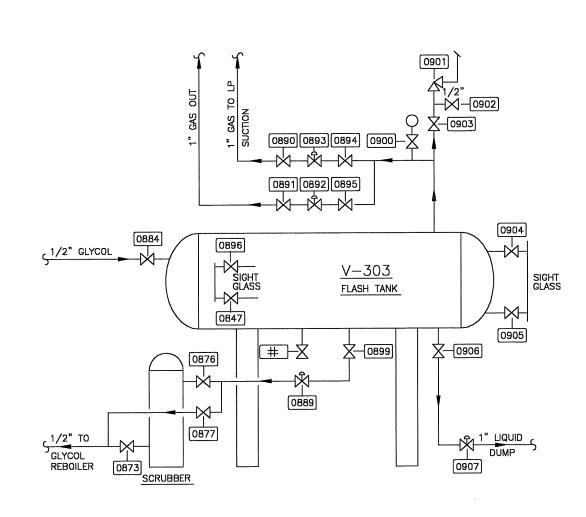






V-303 FLASH TANK



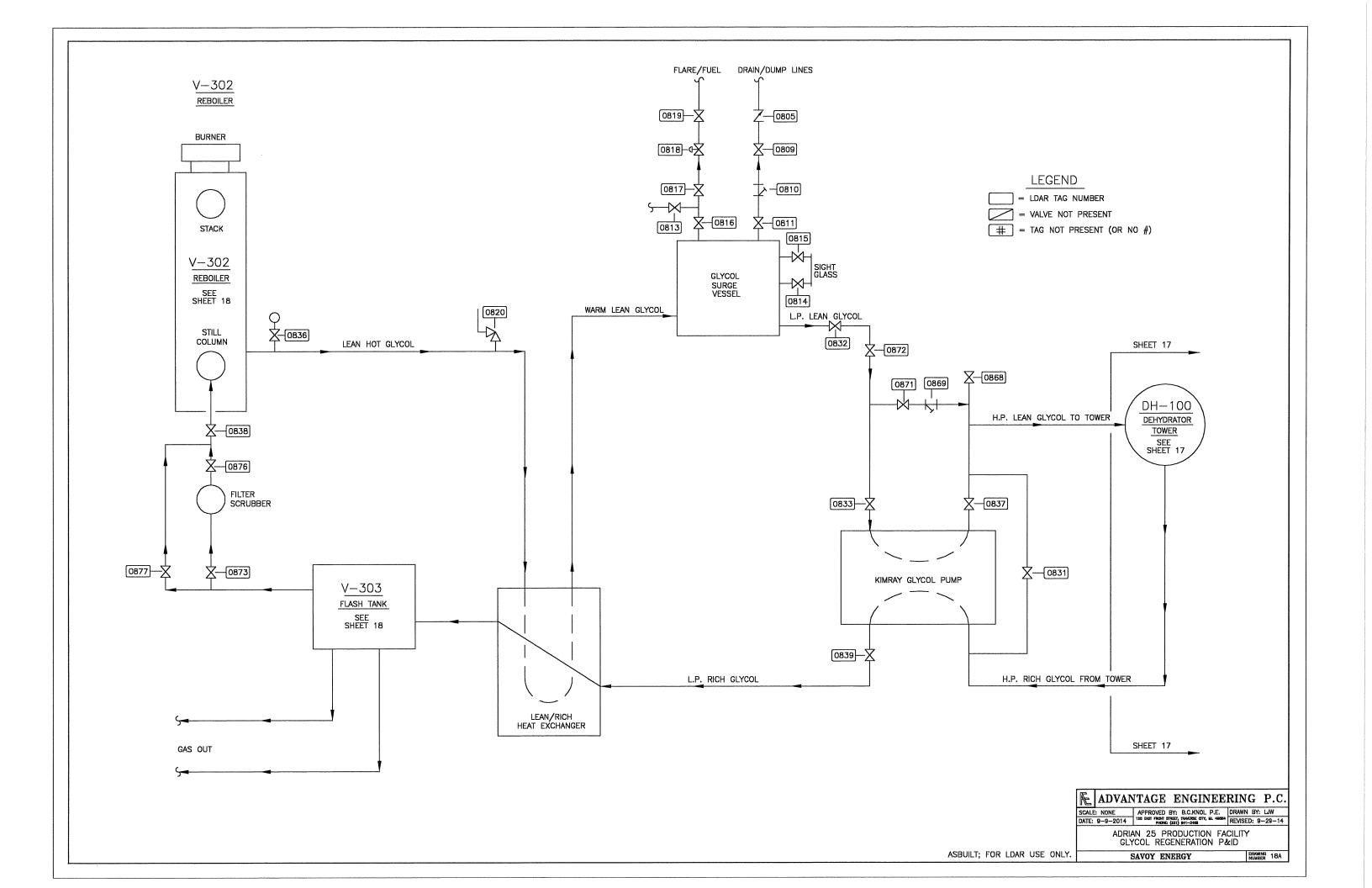


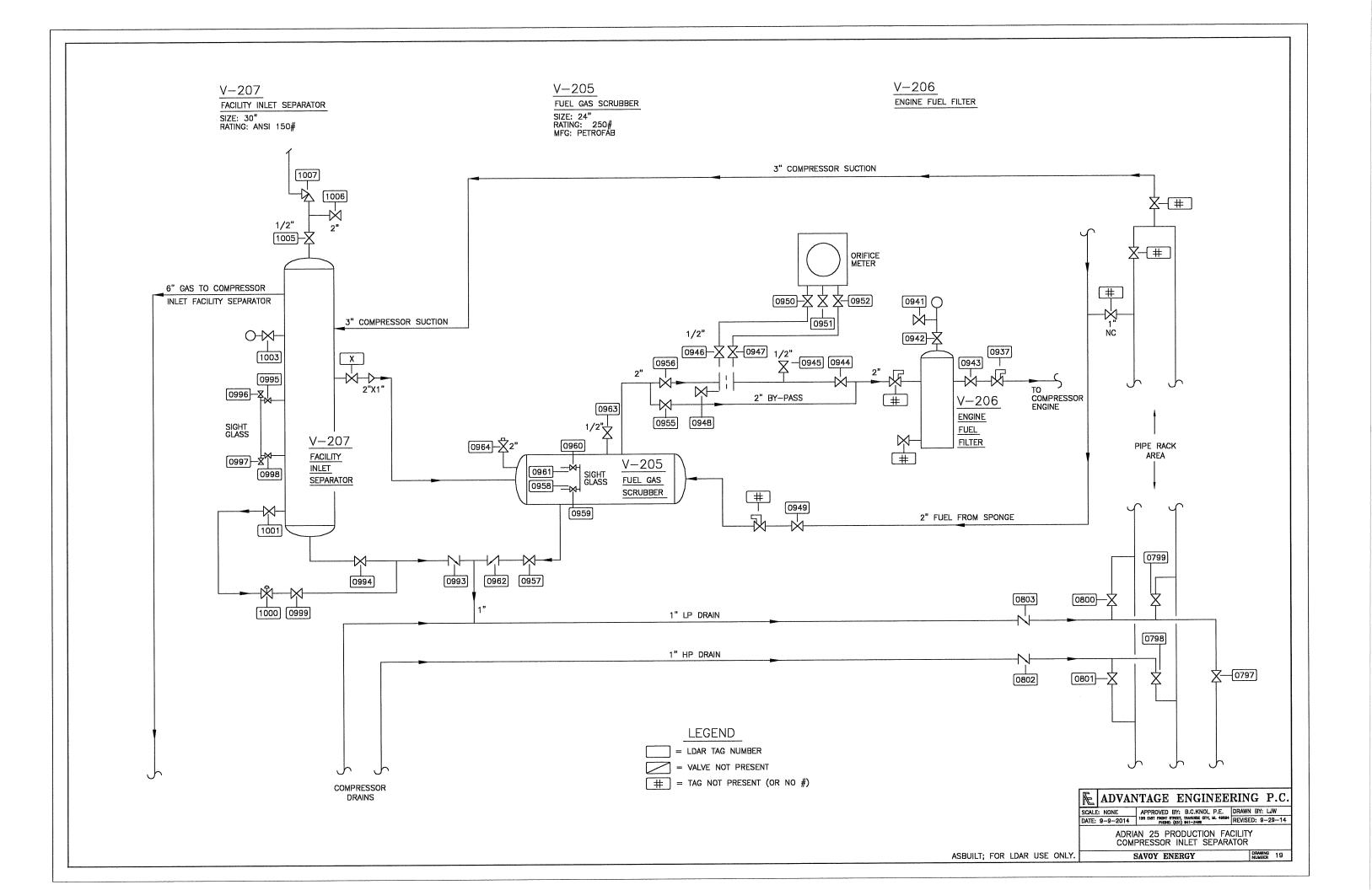
NOTE: SEE SHEET 18A FOR GLYCOL REGENERATION

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	SCALE: NONE	SCALE: NONE APPROVED BY: B.C.KNOL P.E.	
	DATE: 9-9-2014	128 EAST FRONT STREET, TRAVERSE CITY, ML 4888 PHONE: (231) 941-3488	* REVISED: 9-29-14
		AN 25 PRODUCTION FA REBOILER AND FLASH	
ASBUILT; FOR LDAR USE ONLY.		SAVOY ENERGY	DRAWING 18

= VALVE NOT PRESENT

LEGEND





V-201
INLET SCRUBBER

SIZE: 16"

RATING: 215#

<u>C-211</u>

1/2"

1ST. STAGE COOLER

 $\frac{V-202}{2ND. STAGE SCRUBBER}$

SIZE: 16""

RATING: 500#

 $\frac{C-212}{\text{2ND. STAGE COOLER}}$

V-203

3RD. STAGE SCRUBBER
SIZE: 12"

RATING: 725#

 $\frac{C-213}{3 \text{ RD. STAGE COOLER}}$

 $\frac{V-204}{\text{4TH. STAGE SCRUBBER}}$

SIZE: 12"

 $\frac{C-214}{4$ TH. STAGE COOLER

2" GAS RECYCLE TO SUCTION SCRUBBER X--[0938] 1TO ROOF TO ROOF TO ROOF TO ROOF ROOF 1033 # 0932 0989 0931 SIGHT GLASS (2) B8e0 —X SIGHT SIGHT GLASS SIGHT GLASS GLASS 0980 1025 \$—[1014] \$─[1024] 文—0967日 1013 D967A—文 -0933 0990 0983 COMP. TO DEHYDRATOR 4TH STAGE 3RD STAGE INLET 2ND STAGE 6" LP GAS SUCTION FROM V-200 2" HP GAS 0935 0934 SCRUBBER SCRUBBER SCRUBBER SCRUBBER CYLINDER\ <u>CYLINDER</u> CYLINDER\ CYLINDER\ 1017 V-204 V-203 INLET SEPARATOR V-201 0974 V-202 0973 0957 1022 X-[1008] 0967—X 0991 0984 4TH STAGE 1021-0 1026 D967C 1ST STAGE 1011 3RD STAGE 0968-0 2ND STAGE 0985 COOLER COOLER COOLER COOLER 7-[1012] 1020 FAN 0969 FAN 0986 FAN FAN C-214 C-211 C-212 C-213 0987 1015 1019 0970 TO LIQUID DUMP



ADVANTAGE ENGINEERING P.C.

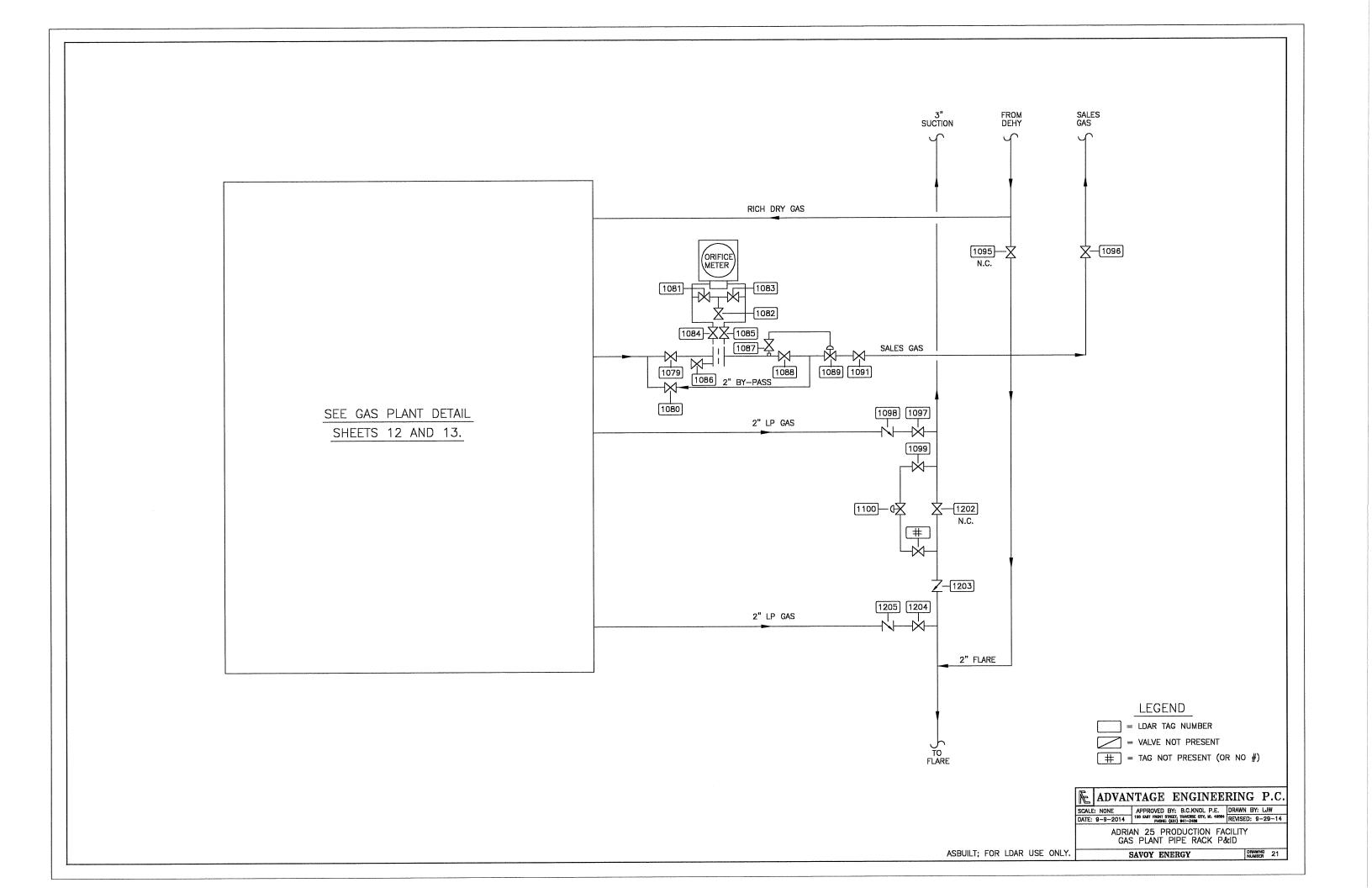
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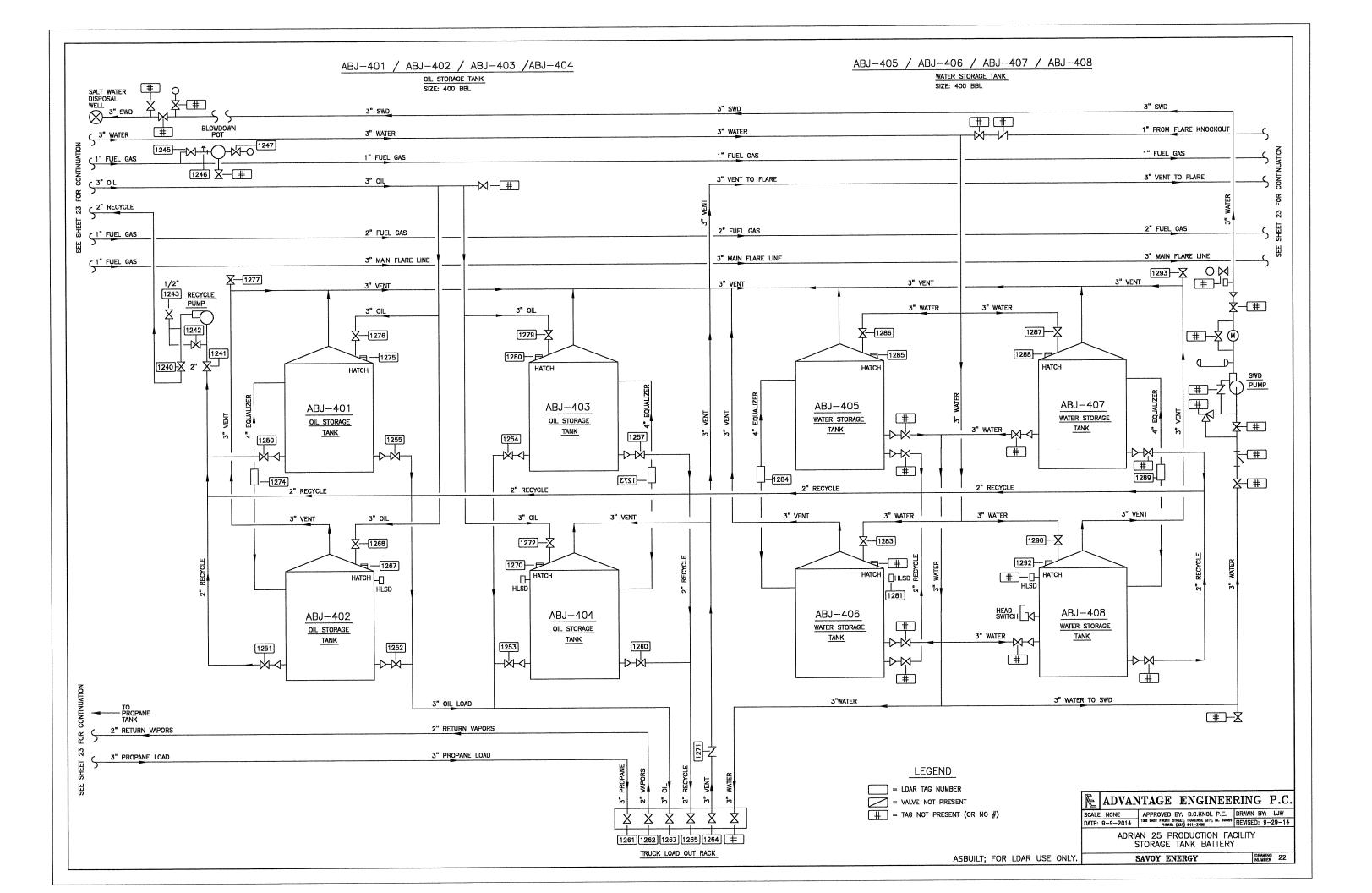
ADRIAN 25 PRODUCTION FACILITY
COMPRESSOR C-200 P&ID

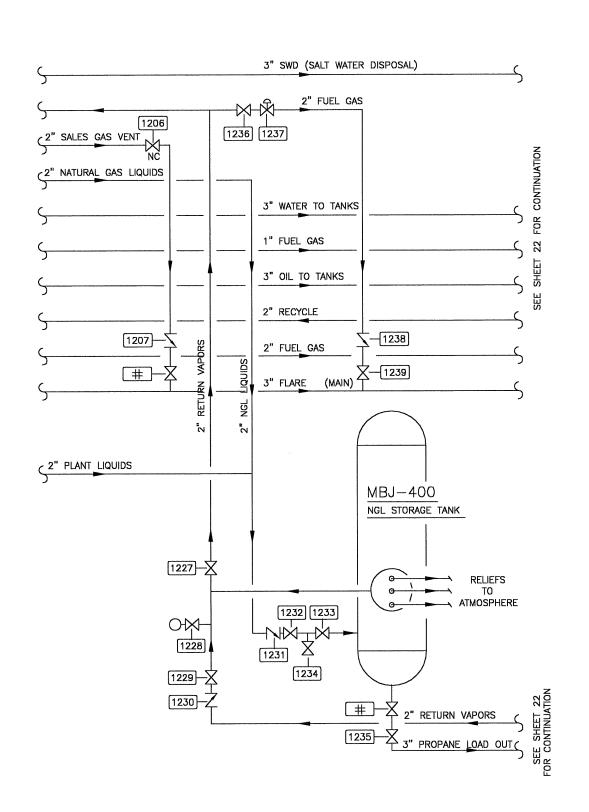
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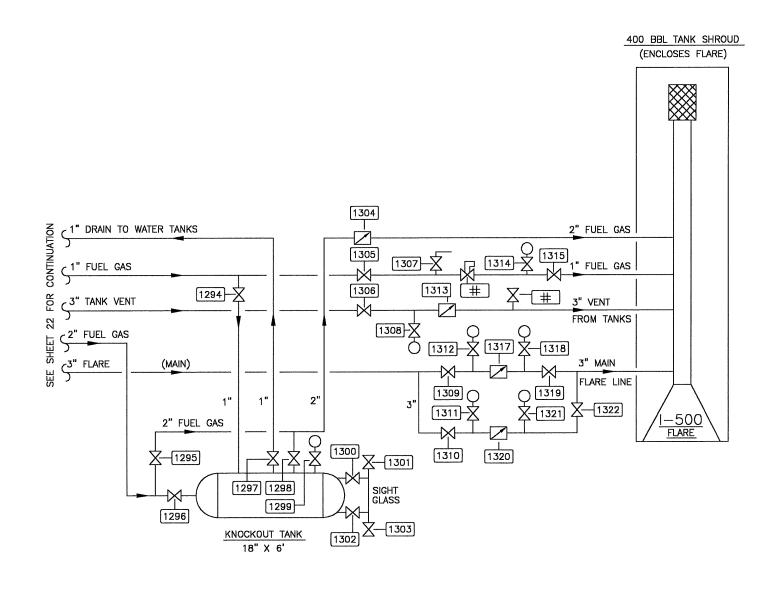
SAVOY ENERGY

DRAWING 20









ADVANTAGE ENGINEERING P.C.

SCALE: NONE APPROVED BY: B.C.KNOL P.E. DRAWN BY: LJW
DATE: 9-9-2014 126 EAST FRONT STREET, TRAVERSES CITY, Mr. 48984 REVISED: 9-29-14

ADRIAN 25 PRODUCTION FACILITY PROPANE TANK AND FLARE P&ID

ASBUILT; FOR LDAR USE ONLY.

SAVOY ENERGY

LEGEND

= VALVE NOT PRESENT

= LDAR TAG NUMBER

= TAG NOT PRESENT (OR NO #)

DRAWING 23

MBJ-300 VERTICAL IRON SPONGE SIZE: 48"OD X 12'
RATING: 1350 PSI @ 20 TO 100'F
MFG: SIVALLS TANK — ODESA, TEXAS ---->--3"X2" MBJ-300 VERTICAL SPONGE 2" HP GAS TO SPONGE \ \ X -(X) 2" HP GAS TO FACILITY ---->---3"X2" --**√**--3"X2" 3"X2" Ż─_X X LEGEND 2" DRAIN = LDAR TAG NUMBER = VALVE NOT PRESENT # = TAG NOT PRESENT (OR NO #) ADVANTAGE ENGINEERING P.C.

SCALE: NONE APPROVED BY: B.C.KNOL P.E.
DATE: 9-9-2014 PROVED BY: BLOCK GITY, NA. 49884 REVISED: 9-29-14 ADRIAN 25 PRODUCTION FACILITY VERTICAL IRON SPONGE P&ID

ASBUILT; FOR LDAR USE ONLY.

DRAWING 24

SAVOY ENERGY